Paladin Platoon Operations versus Battery Operations

by Lieutenant Colonel Kerry J. Loudenslager and Captain Ryan J. LaPorte

Which is better: platoon or battery operations in a Paladin battery? Is battery operations the best method of employment? Have units given up on Paladin platoon operations? Does operating by platoons offer any advantages over battery operations-say, in a desert, forested, urban or other environments? How do we employ Paladin to provide the most timely, accurate fires both now and in the future?

The answers to these questions are not simple. They depend on too many variables to give one-answer-fits-all responses. Many commanders have chosen to implement Paladin battery operations and tactics as their method of employment—some without seriously considering platoon operations as an option.

The Army needs flexibility. We are in the process of transforming from a highly specialized force to a more general-purpose force with special-purpose applications, to include small-scale contingency (SSC) operations.[1] In the Paladin battery, we must maintain our proficiency in both employment methods to provide the fire support flexibility needed for today's force and tomorrow's Objective Force.

This article discusses the advantages of conducting Paladin platoon and battery operations and suggests Paladin battalions maintain the ability to conduct both; it also discusses changes upcoming in the Force XXI units and calls for additional resources to maintain the option of conducting both platoon and battery operations.

Historical Perspective. US Army cannon FA units (heavy) first began operating under the platoon concept in June 1986. This resulted from an Army of Excellence (AOE) Field Artillery organization initiative for heavy divisions that recommended improved firepower, survivability and man-to-equipment ratios to counter the huge Soviet artillery threat.

Supported by the Legal Mix V Study of 1978 conducted by the Field Artillery School, Fort Sill, Oklahoma, the Field Artillery abandoned the six-gun battery in 155-mm self-propelled howitzer battalions and the four-gun battery in 8-inch battalions in favor of an eight-gun battery for both systems. This reorganization was known as the 3x8 battalion force structure (heavy) where three, eight-gun batteries were created within the battalion. Each battery was sub-divided into two, four-gun platoons with a fire direction center (FDC) organic to each.

This battery model helped facilitate semi-autonomous operations while enhancing survivability within the firing battery.[2] It gave each platoon the capability to operate over a wider, more dispersed battlefield while providing better protection against enemy counterfire and air threats.

In 1993, active duty FA battalions (heavy) began fielding the M109A6 Paladin howitzer. Paladin revolutionized the means by which the Field Artillery provided fire support to maneuver commanders.

Perhaps the most significant operational improvements over earlier M109 systems were the Paladin's superior enhancements to responsiveness and survivability. Paladin reduced the ready-to-fire time from 11 minutes to 75 seconds. Improved technology allowed the system to occupy autonomously without orienting stations, gun guides, aiming circles or hard wire. Position occupations were accomplished over wider frontages in more varying terrain. "Shoot and Scoot" displacements and emplacements were exercised considerably faster, making both platoon and battery operations much more efficient.

Employment options were many. Commanders could bring all their assets together for enhanced survivability against the ground attack, or they could spread them out in platoons or pairs to cut down on the howitzer vulnerability to counterbattery fires. Commanders could "leap frog" platoons in the offensive while passing control from one FDC to another.

Starting in 1996, the 3x8 battalion force structure was converted back to the six-gun firing battery (3x6 battalion) to help facilitate modernization efforts for FA units in heavy divisions while cascading Paladins and multiple-launch rocket systems (MLRS) into the Army National Guard.[3] Contrary to popular belief, this conversion had nothing to do with the obsolescence of split-battery (platoon) operations. The need to more widely disperse the guns to reduce the threat of enemy counterfire still exists today, for example in Korea.

The battery organization of two firing platoons, each with three guns and one platoon operations center (POC), formerly known as the FDC, remains in Paladin units today under the 3x6 battalion force structure.

Paladin Platoon Operations. *FM 6-70 Tactics, Techniques and Procedures (TTP) for Paladin Operations* defines platoon operations "as a POC controlling three Paladin howitzers in a position area (PA) that is approximately 1,500 x 3,000 meters. The number of howitzers in each platoon may be altered and various employment techniques can be used to meet mission requirements. Command and control is critical to maintaining responsiveness and survivability of the platoons."

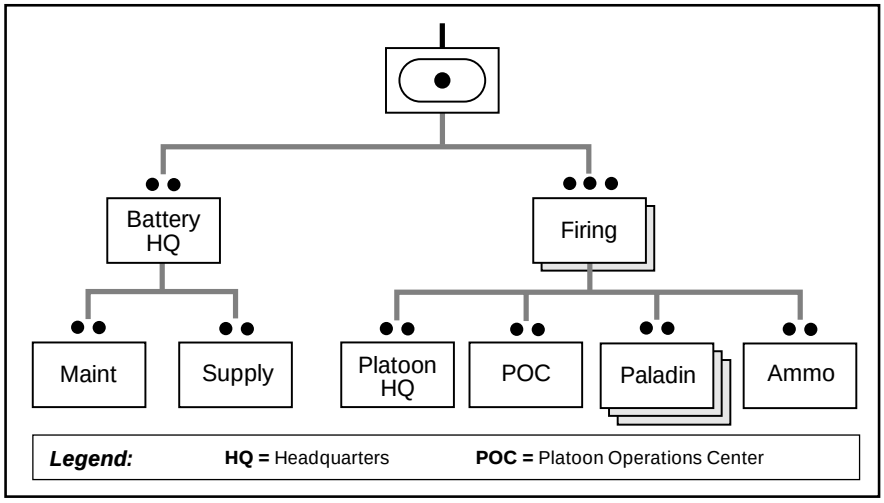

Figure 1: Paladin Battery Organization (Not the Force XXI Paladin Battery)

Simply stated, platoon operations require two functional POCs to command and control organic firing elements. Each POC is primarily responsible for database management, movement control, fire mission processing, administrative and logistics management, situational awareness and battle tracking. Figure 1 illustrates how the Paladin battery currently is organized to perform these functions (less Force XXI Paladin units).

The POC in each platoon consists of eight personnel: one fire direction officer (FDO) and seven enlisted fire direction personnel. This gives the battery enough manpower to conduct simultaneous platoon operations. Additionally, each POC has the devices to conduct autonomous operations, including an armored command post carrier with a lightweight computer unit (LCU) and radios to support both digital and voice communications.

Platoon operations require each POC to control three howitzer sections. There are lots of things going on in the POC. Database management and tactical fire control are the POC's primary functions. However, both POCs must maintain databases for all six of the battery's guns so either can assume command and control of all guns if one POC is incapacitated. The POC must be prepared to pick up the technical fire direction piece immediately if howitzers go into a degraded mode—i.e., the guns lose digital communications or Paladin's automatic fire control system (AFCS) computer fails. (FM 6-70, Appendix A, discusses degraded operations.)

Well-trained POCs can handle these requirements. The two POCs provide the battery a redundant means for command and control of its guns.

Paladin platoon operations work very well in mountainous or restrictive terrain that may force a unit to disperse more than usual. For example, the Paladin howitzer battery organic in each of the three squadrons of an armored cavalry regiment (ACR) must be prepared to provide fire support over a wide frontage. Dispatching platoons or pairs of howitzers may be the only practical means of providing fires in this situation.

Platoon operations offer several advantages.

Greater Dispersion. Platoon firing elements can achieve greater dispersion in the battery area of operations (AO) because of two command and control nodes. Each platoon can "stretch out" its tactical dispersion, which is limited only by the range of voice and digital communications assets. Employing paired howitzers further enhances dispersion within firing areas.

Fire Control Redundancy. Both POCs are actively engaged in fire mission processing and command and control. The constant exchange of gun database information between platoons facilitates a smoother transition during the POC changeover process.

Under battery operations, primary fire control is conducted in the POC and redundant fire control is maintained in the battery operations center (BOC). However, it normally takes much longer to conduct a changeover because the primary focus in the BOC is usually on administrative and logistics management, situational awareness and battle tracking—vice database updates.

Communications. Platoon voice and digital radio nets are less likely to be-

come congested than battery nets. Operational control becomes more efficient because of shorter net access delay times during digital radio transmissions. Voice nets are usually less crowded within the platoon net structure, as compared to one battery net.

Mission Flexibility. Platoon operations facilitate a better opportunity to conduct simultaneous or special mission requirements within the firing battery, such as platoon raids employing family of scatterable mines (FASCAM), rocket-assisted projectiles (RAP), Copperhead, illumination and marking rounds for close air support (CAS).

13E Fire Direction Specialist Training Proficiency. Fire direction personnel may sustain better training proficiency in platoon operations because they are constantly engaged in processing fire missions and controlling the movement of firing elements. Under battery operations, the technical skills of those in a BOC may erode without a quality cross-training program.

Better Leader Ratios. Each platoon has a platoon leader, platoon sergeant and a gunnery sergeant organic to the platoon headquarters. This maximizes command and control between the POCs and firing elements while maintaining a continuous reconnaissance capability. Furthermore, it enhances the coordination effort for terrain and mutual support operations with adjacent maneuver units. (Under the new Force XXI table of organization and equipment, or TOE, the Paladin battery has only one gunnery sergeant.)

Battery Operations. FM 6-70 defines battery operations "as one POC controlling all six howitzers in an area that is approximately 3,000 x 3,000 meters. The Paladin firing battery normally operates with two firing platoons. However, the battery commander may designate one POC to control all six howitzers to meet mission requirements."

This method of control does not preclude the commander from employing his howitzer sections in platoons or pairs. The key difference is that there is only one controlling POC, which requires all howitzers to tighten up their dispersion to remain within radio contact of the POC.

Although all Paladin units (less Force XXI units) are organized similarly, most use the POC/BOC (battery operations) concept. This means the POC conducts all tactical control and fire mission processing for all six howitzers, while the BOC oversees battle tracking, administrative and logistics management, and situational awareness. In this situation, the BOC must maintain the capability to perform technical and tactical fire direction while continuously updating howitzer databases to provide backup control when the POC is out of action.

The *Steel Dragons* of 2d Battalion, 82d Field Artillery (2-82 FA) of the 1st Cavalry Division, Fort Hood, Texas, developed an effective means of conducting battery operations. This example of battery operations is outlined in the article "3x6 Operations in the Paladin Battery" by Lieutenant Colonel Stephen D. Mitchell and Captain Patrick D. Quinn III in the March-April 1999 edition. The article provides some excellent ideas for employing the battery consistent with how many Paladin units operate today and emphasizes the backup fire direction capability and proficiency of the BOC.

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There are some advantages to battery operations.

Compensates for Manpower Shortages. Battery operations are a better employment option if a unit has significant shortages in 13E personnel. These shortages may preclude a unit from physically manning two separate POCs during platoon operations.

Simplicity. At the battalion level, command and control is easier with one controlling POC. The battalion FDC only has to work with three subordinate elements instead of six.

Better Information and Logistics Management. Logistics management and battle tracking is easier and more efficient because the BOC can focus on these tasks while the POC tackles tactical control and fire mission processing. Some batteries flip-flop the BOC and POC functions from position to position to facilitate continuous operations and reinforce changeover crew drills for both elements.

Force XXI Paladin Battery. The 4th Infantry Division (Mechanized) Paladin units at Fort Hood are organized under the Force XXI design (See Figure 2). According to current force structure plans, all remaining Paladin units (both active component and Army National Guard) will convert to this new design sometime in the future.[4]

Note that the Force XXI battery has a support platoon added to manage the battery's administrative and logistics actions. Another key difference is the Force XXI design does not have a POC in each firing platoon. Instead, there is one BOC for the firing battery. The BOC TOE designates nine personnel: one FDO and eight enlisted fire direction specialists. The BOC's equipment includes an armored command post carrier with one LCU and associated radios. This means that the BOC must perform all functions necessary to maintain tactical control and fire mission processing functions for six howitzers.

Sound familiar? It's battery operations. But...where's the battery's command and control redundancy?

Under the current TOE, redundancy means are inadequate. There is no second armored command post, no second LCU, no second set of radios, etc. Therefore, when a battery BOC becomes incapacitated, another battery will have to pick up the six firing elements for command and control.

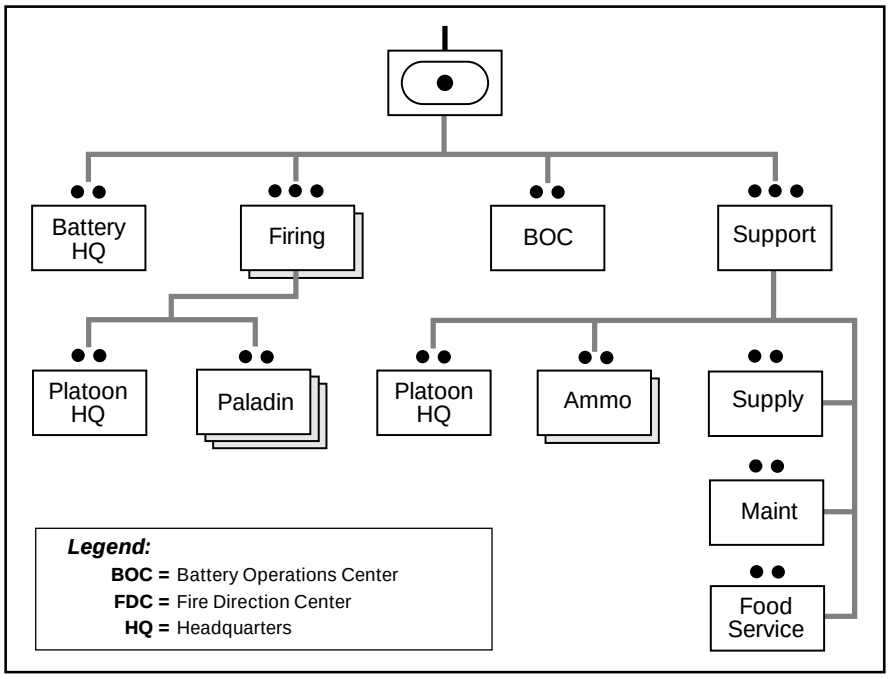

Figure 2: Force XXI Paladin Battery Organization

This is a poor option because the gaining BOC also only has one LCU, which gives it the digital capability to handle eight guns at a time. That means the gaining BOC can achieve digital command and control with only two guns from the sister battery while maintaining command and control of its own six guns. The other four guns will have to conduct degraded operations using voice communications, which minimizes Paladin's capabilities.

Suggested Solution. The Force XXI Paladin unit design does not provide enough resources for a firing battery to achieve command and control redundancy. The TOE needs to be redesigned, and Paladin batteries need to be resourced to conduct both battery and platoon operations.

As stated in the *Experimental Special Text (XST) 6-70 Draft TTP for Force XXI Paladin Units*, the firing battery is organized with a BOC to serve as the command and control node for the unit. This function includes operations planning and execution and tactical and technical fire mission processing. In order to accomplish these tasks, the BOC requires two identical sets of equipment so it can split into two command and control nodes to maintain continuous contact with the battery's cannon systems. Due to the fluid nature of the battlefield, these cannons may be operating outside the normal range of one command and control node.

Specific equipment requirements for redundancy of command and control include a command post carrier vehicle for mobility and protection, the capability to operate on five high-powered combat net radio (CNR) nets for voice or data tactical communications, a high-speed data radio, the enhanced position location reporting system (EPLRS) for situational awareness information; an Army tactical command and control system (ATCCS), the advanced Field Artillery tactical data system (AFATDS) for command and control and fire mission processing, a position-location determining device, precision lightweight global positioning system receiver (PLGR), and other items of equipment associated with support.

Conclusion. Paladin is flexible enough to operate in platoons or as a battery. The decision to employ a method should be based primarily on the factors of mission, enemy, terrain, troops, time available and civil considerations (METT-TC). Some situations require a Paladin unit to operate with two command and control nodes. If Paladin units are destined to organize under the Force XXI design, then we must provide adequate resources to maximize Paladin's capabilities and allow the units to operate in platoons or as a battery.

Efforts are underway to change the Force XXI TOE to reflect these recommendations.

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Endnotes:

1. Major General Toney Stricklin, "Field Artillery Commander's Update" (unpublished), Fort Sill, OK, 14 September 2000, 1.
2. Boyd L. Dastrup, *US Army Field Artillery Center and School Monograph Series: Modernizing the King of Battle, 1973-1991,* (Fort Sill, OK: Office of the Command Historian, US Army Field Artillery Center and School, 1994), 16-17.
3. Interview of Christopher Klein, Force Structure Branch, Directorate of Combat Developments, US Army Field Artillery School, Fort Sill, OK, conducted 29 January 1997 by Boyd L. Dastrup for the "1996 US Army Field Artillery Center and School Annual Command History" (unpublished); Major General Randall L. Rigby, "3x6 Cannon-2x9 MLRS Transition," *Field Artillery* (September-October 1996), 18-21.
4. Briefing, Subject: "Force XX1 Paladin Firing Battery Organization" by Major Thomas Brown and Christopher Klein, Force Structure Branch, Directorate of Combat Developments, US Army Field Artillery School, Fort Sill, OK, 2 October 2000.